USDA

United States
Department of
Agriculture

Forest
Service

November 2014

Roads and Engineering Specialist Report

Little Deer Project

Goosenest Ranger District, Klamath National Forest
Siskiyou County, California

Sections 1, 12, 13, 24 in T44N, R3W; Sections 3, 4, 5, 6, 7, 8, 9, 10, 16, 17, 18, in T44N, R2W; (Mt. Diablo Meridian)

EXECUTIVE SUMMARY

Following the fire suppression effort the roads within the Little Deer Project area received maintenance and repair. Some of the roads are currently under a Burned Area Emergency Response (BAER) contract to stabilize and improve drainage within the burn area. For the Little Deer Project, access will be provided by these Forest Service system roads and temporary roads on existing roadbeds. There are just over 12 miles of Forest Service system road within the project area that will be utilized. The Forest Service system roads will be suitable for commercial haul. Temporary roads on existing roadbeds that are utilized for the project will be left in hydrological stable and self maintaining conditions and the entrances will be blocked after project completion. Existing landings will be used to the extent possible. No new roads will be added to the system and no system roads will be decommissioned. Approximately 1 mile of private road segments may be utilized for the project. Authorization for use of the private segments will be under road use permits issued to the contractor by the land owners.

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1 INTRODUCTION

The Little Deer Project will remove hazard trees along system roads, remove dead trees from approximately 1,800 acres and will plant trees in approximately 3,400 acres. 12.09 miles of system road and 8.97 miles of temporary roads will be utilized for the preferred alternative.

2 AFFECTED ENVIRONMENT

The KNF program emphasis goal for roads is to provide an economical, safe, and environmentally sensitive transportation system. Within the project area there are 12.08 miles of Forest System Roads, and 9.29 miles of Temporary Roads on Existing Roadbeds (identified in GIS). Implementation of Alternative 2 will utilize 9.29 miles of Temporary Roads on Existing Roadbeds while Alternative 3 will utilize 8.97 miles. **Table 2-1** displays the miles of road by type or maintenance level within the project area that will be used to implement this project.

Table 2-1 Summary of Roads by Type in Project Area

Operational Maintenance Level	Miles Alt. 2	Miles Alt. 3
Temporary Roads on Existing Roadbeds	8.97	8.97
1—Basic Custodial Care (Closed)	0	0
2—High Clearance Vehicles	10.71	10.71
3—Suitable For Passenger Cars	1.37	1.37
4—Moderate Degree of User Comfort	0	0
New Temporary Roads	0	0
Total	21.05	21.05

Following fire suppression repair and the BAER contract, all system roads in the Little Deer Project Area will be ready for project implementation. In previous analysis, considerations were made on whether the roads were needed for on-going long-term resource management, mitigation of potential adverse effects, condition, work needed prior to project implementation and status within the Klamath National Forest Motorized Travel Management Record of Decision (USDA 2010). **Table 2-2** displays the current condition of each road and recommended work to be done thru this project to meet resource objectives.

Table 2-2 Little Deer System Road Notes

Road Number	Miles	Project Access	Drivable?	Condition/Status	Recommendation
44N23Y	3.2	Yes	Yes	Good, BAER work completed 11/2014	Post Haul Blade
44N27	0.97	Yes	Yes	Good, BAER work completed 11/2014	Post-Haul Blade
44N28Y	1.83	Yes	Yes	Good, BAER work completed 11/2014	Post-Haul Blade
44N66	2.72	Yes	Yes	Good, Fire suppression repair completed 09/2014	Post-Haul Blade
44N66A	0.95	Yes	Yes	Good, Fire suppression repair completed 09/2014	Post Haul Blade
45N48Y	1.78	Yes	Yes	Good, BAER work completed 11/2014	Post Haul Blade
70	0.40	Yes	Yes	Good, Fire suppression repair completed 09/2014	Post Haul Blade

None of the Temporary Roads on Existing Roadbeds in the Little Deer Project Area were identified as being needed for long term resource management and will not be added to the National Forest System Roads; the project will utilize existing temporary road beds to

access stands needing treatment. The roadbeds will be left in a hydrological stable and self maintaining condition and the entrances will be blocked after project completion.

The Klamath National Forest Motorized Travel Management Record of Decision 2010 with the publication of the Motorized Vehicle Use Map (MVUM) restricts vehicles to the roads and areas designated on the map. Vehicles are restricted to open FS system roads.

Recommendations

- To limit resource impacts from roads, utilize system roads to the extent possible. Do not add new system roads. Use temporary roads on existing roadbeds and existing landings to the extent possible to meet project needs.
- Take no actions that would conflict with the Klamath National Forest Motorized Travel Management Record of Decision.
- Incorporated into Alternatives 2 and 3 as directed by District Ranger.

3 APPLICABLE LAWS, REGULATIONS AND STANDARDS

Plans, policies, and regulations that provide management direction for this project include (not limited to):

- The Klamath National Forest Land and Resource Management Plan of 1995 (includes Standards and Guidelines from the Northwest Forest Plan)
- Section 7(a)(1) of the Endangered Species Act
- Clean Air Act
- The National Fire Plan
- National Forest Management Act
- Section 106 of the National Historical Preservation Act

The project is designed to be consistent with all applicable policies and plans. This project includes Project Design Features developed to reduce impacts to resources and to meet the standards and guidelines of the Forest Plan.

Programmatic management direction for the KNF is provided by the Forest Plan (USDA 1995), which incorporates the *Northwest Forest Plan Record of Decision* (ROD) *for Amendments to the Forest Service and Bureau of Land Management Planning Documents within the Range of the Northern Spotted Owl (USDA and USDI 1994),* as amended by the ROD January 2001 (USDA and USDI 2001).

Mapped roads within the Little Deer Project area are within lands allocated by the Forest Plan (USDA, 1994) to Forage. Transportation management guidance from the Forest Plan specific to provides the following standards and guidelines. A leading asterisk indicates adoption from the NW Forest Plan.

*MA10-41 Federal, state, and county agencies should cooperate to achieve consistency in road design, operation, and maintenance necessary to attain Aquatic Conservation Strategy objectives.

*MA10-42 for each existing or planned road, meet Aquatic Conservation Strategy objectives by:

a) Minimizing road and landing locations in RRs.

b) Completing watershed analyses (including appropriate geotechnical analyses) prior to construction of new roads or landings in RRs.

c) Preparing road design criteria, elements, and standards that govern construction and reconstruction.

d) Preparing operation and maintenance criteria that govern road operation, maintenance and management.

e) Minimizing disruption of natural hydrologic flow paths, including diversion of streamflow and interception of surface and subsurface flow.

f) Restricting sidecasting as necessary to prevent the introduction of sediment to streams.

g) Avoiding wetlands entirely when constructing new roads.

*MA10-43 Determine the influence of each road on the Aquatic Conservation Strategy objectives through watershed analysis. Meet Aquatic Conservation Strategy objectives by:

a) Reconstructing roads and associated drainage features that pose a substantial risk.

b) Prioritizing reconstruction based on current and potential impact to riparian resources and the ecological value of the riparian resources affected.

c) Closing and stabilizing, or obliterating and stabilizing roads based on the ongoing and potential effects to Aquatic Conservation Strategy objectives and considering short-term and long-term transportation needs.

*MA10-44 New culverts, bridges and other stream crossings shall be constructed, and existing culverts, bridges and other stream crossings determined to pose a substantial risk to riparian conditions will be improved, to accommodate at least the 100-year flood, including associated bedload and debris. Priority for upgrading will be based on the potential impact and the ecological value of the riparian resources affected. Crossings will be constructed and maintained to prevent diversion of streamflow out of the channel and down the road in the event of crossing failure.

*MA10-45 Minimize sediment delivery to streams from roads. Road design measures may include minimum impact location, appropriate road surfacing, armoring of ditchlines, controlled compaction of fills, outsloping of roads, mechanical and vegetative slope protection, wet weather traffic control, annual maintenance and inspection. Outsloping of the roadway surface is preferred, except in cases where outsloping would increase sediment delivery to streams or where outsloping is unfeasible or unsafe. Route road drainage away from potentially unstable channels, fills, and hillslopes.

*MA10-46 Provide and maintain fish passage at all road crossings of existing and potential fish-bearing streams. Construct stream crossings to not divert streamflow out of the channel and down the road alignment.

*MA10-47 Develop and implement a Road Management Plan or a Transportation Management Plan that will meet the Aquatic Conservation Strategy objectives. As a minimum, this plan shall include provisions for the following activities:

a) Inspections and maintenance during storm events.

b) Inspections and maintenance after storm events.

c) Road operation and maintenance, giving high priority to identifying and correcting road drainage problems that contribute to degrading riparian resources. d) Traffic regulation during wet periods to prevent damage to riparian resources. e) Establish the purpose of each road by developing the Road Management Objective.

MA10-48 Give high maintenance priority to road drainage problems that contribute to a degraded riparian resource.

MA10-49 Designed road fills may extend beyond the cleared roadway when the management action is less detrimental

To riparian resources. MA10-50 Closed and restored roads should be configured for long-term drainage and stability.

MA10-51 Close temporary roads and landings, configure them for long-term drainage and stability, and restore them to productivity.

MA10-52 Work with private landowners, or other entities, to reduce road-related impacts. Use the necessary permits, easements, or cooperative agreements to reduce impacts from sedimentation or stream shade removal.

MA10-53 Fall roadside safety hazard trees. Allow the removal of these trees where woody debris requirements have been meet.

MA 16-11 Develop a transportation management schedule that effectively and efficiently provides the necessary access to the area while meeting the desired road density objectives. Roads that are not part of the long-term transportation system should be closed, stabilized and returned to a natural state. Gate roads that have only seasonal value to control access into the area.

MA 16-12 Provide vegetative screening along major roads when they occur next to forage habitat.

*MA17-5 Develop a transportation network that effectively and efficiently allows the transport of commodities to available markets. The system should be economical, safe and environmentally sensitive.
*MA17-6 Maintain surplus or infrequently used roads in a self-maintaining condition (Level 1) to reduce watershed and wildlife impacts and to reduce road maintenance costs.

The Forest program emphasis goal for roads that applies to all land allocations is to provide an economical, safe, and environmentally sensitive transportation system. Maintenance and restoration of existing roads are to be emphasized, rather than constructing new roads.

4 ENVIRONMENTAL CONSEQUENCES

4.1 Alternative 1—No Action

Under the No Action Alternative, there will be no temporary road construction or road closures. No road maintenance other than minimal needed to open the roads.

4.2 Alternatives 2 and 3

Impacts to and from roads are nearly identical for Alternative 2 and 3. In order to implement the project, the use of Forest System Roads and Temporary Roads on Existing Roadbeds will be needed. The project will utilize approximately 9 miles of Temporary Roads on Existing Roadbeds. The access to the treatment areas will be over existing public roads with Forest Service jurisdiction and approximately 1 mile of private road segments. Commercial haul will be from Forest System roads to State Route 97. One private road may be utilized to haul also to State Route 97. The System roads that intersect State Route 97 and could be used for haul are 44N28Y, 44N23Y, 44N27, 45N48Y and 70.

Private road use will be under road use permit issued to the contractor be the land owner. Road maintenance needs for the project will include routine maintenance, such as dust abatement, post-haul blading, felling and hauling of Hazard Tree(s). The Forest Service road system in the project area was not designed for wet weather use. Any commercial use outside of the normal operating season will be by permit with mitigation measures. Commercial use during the normal operating season will require dust abatement. A wetting agent (water or a combination of water and Magnesium Chloride) will be applied as needed to decrease or eliminate dust generated from timber hauling on dirt roads.
Collections for surface replacement will be assessed at current rates. **Table 3-1** displays Surface replacement costs as of the last update on 03/29/2011.

Table 3-1

SURFACE REPLACEMENT COSTS			
SURFACE TYPE	**PRODUCT MEASUREMENT**		
	$/MBF/MILE	**$/MBF CULL/MILE**	**$/TON/MILE**
PIT RUN ROCK	0.615	0.412	0.137
CINDERS	0.721	0.483	0.161
CRUSHED ROCK	0.908	0.608	0.202
CHIP SEAL	1.299	0.870	0.288

Dust abatement and post-haul blading will be required as part of the implementation of the Little Deer Project. There are no developed water drafting site within the project area and two that are close to haul routes outside of the project area.

1. Drafting site on the 44N30X road in Butte Creek, T44N, R1W, NE ¼ section 21. This site is near Bray on the road to Orr Lake, next to the bridge.
2. Drafting site on the 6P01 road in Butte Creek, T44N, R1W, SW ¼ section 19. This is off the Tennant Road on the Soule Ranch and requires permission from the landowner.

All drafting sites will require the use of an approved fish screen for use in fish bearing streams along with spill containment materials and precautions taken to prevent hazardous materials spills into the streams.

All Temporary Roads (on Existing Roadbeds) will be put into hydrological stable self maintaining condition and the entrances will be blocked after project completion.

5 SUMMARY OF RESOURCE PROTECTION MEASURES AND MONITORING

For a complete list of Project Design Features, please refer to the Little Deer Project Resource Protection Measures within the Environmental Analysis for this Project.

- All Temporary Roads used for entry will be closed immediately following operations.
- When multiple entries are necessary for project completions, temporary roads used by contractors will be closed in between each entry.
- Temporary road closure will include all or a combination of the following activities: (1) placing boulders, earth or log mound barriers to prevent vehicle traffic; (2) subsoiling and outsloping the road surface; (3) installing water bars and other drainage structures; and (4) mulching with native materials (logging slash) or certified weed free straw.

6 REFERENCES

USDA. Forest Service, Pacific Southwest Region. 2010. *Motorized Travel Management Record of Decision: Klamath National Forest.* Yreka, CA.

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